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Unique Dividends for Retail Shareholders: Evidence from Shareholder perks

Katsushi Suzuki

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Katsushi Suzuki
Graduate School of Business Administration,
Kobe University, Japan
suzukatsu@b.kobe-u.ac.jp

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Abstract

Previous studies indicate that retail investors are thought of as noise traders, price-takers, and free riders. However, many managers worldwide embrace the expense and treat their retail shareholders favorably. We examine why firms provide small individual stockholders with special treatment by using Japanese shareholder perks, which resemble dividends that are only for small individual shareholders. We find that firms with a low number of individual shareholders and high board ownership tend to initiate shareholder perks. The number of individual shareholders increases dramatically after perk initiation. The high attractiveness of perks for individual investors is positively associated with the stock return on the initiation announcement day and negatively associated with the cost of capital after initiation. The ex-perk day return is significantly negative, and the trading volume around the ex-perk day is significantly positive. The number of individual shareholders is positively associated with the discount premium and the abnormal volume around the ex-day. These results imply that firms introduce perks to attract individuals and that a preference clientele effect clearly exists in dealings around the ex-day.

JEL classification: G14, G30, G35

Keywords: Shareholder perks, Retail investors, Clientele effect, Ex-day return

1. Introduction

Numerous existing studies indicate that small individual investors and shareholders are thought of as proverbial noise traders, price-takers, and free riders (e.g., Grossman and Hart (1980), Kyle (1985), Black (1986)). However, many firms and managers assume significant expense and treat their small shareholders favorably by providing, e.g., an information session, a factory tour or a shareholder perk.[1] Why do firms provide small shareholders with special treatment? How does this special treatment affect the shareholder clientele and firm value? Shareholder perks provide a unique opportunity to examine these questions.

A shareholder perk is a gift to shareholders. Such gifts are not cash; instead, they consist of products either from the firm or from other firms.[2] Although these perks are uncommon in the U.S., many companies worldwide provide shareholder perks.[3,4] At the end of 2013, approximately 28% of all public companies in Japan, 17% of the FTSE 100 companies on the London Stock Exchange, and 12% of the ATX 100 companies on the Australian Securities Exchange had adopted shareholder perks.[5] Because shareholder perks of approximately the same value are given to every shareholder, retail shareholders have advantages related to the value of the shareholder perk over their investment value.[6] From 2001 to 2011, the average perk yield for the smallest shareholders

[1] Some countries' governments have also adopted preferential treatment for retail shareholders. For example, the U.K. has introduced the individual saving account, ISA, which makes income and capital gains tax-exempt for investors with investment capital of 11,280 pounds or less. Japan introduced a system similar to the U.K. version of the ISA in 2014.

[2] Other firms' products include food, gift cards, etc. For example, NIPRO, which is the largest producer of medical equipment in Japan, provides a ¥15,000 ($150) JCB gift card to every shareholder as a shareholder perk. The minimum trading size of NIPRO investors is ¥901,000 (approximately $9,010), and the perk yield for minimum-size shareholders is approximately 1.66% based on NIPRO's stock price on February 28, 2014.

[3] The Wall Street Journal examined some perks from U.S. companies on December 13, 2013. (http://online.wsj.com/news/articles/SB10001424052702303330204579250763759331636)

[4] Tirole (2005) shows the ownership of common stock for listed companies in Germany, Japan, the U.K. and the U.S. While individual ownership in the U.S. was 42.5%, individual ownership in other countries was less than 20%. One reason that shareholder perks are widely used among countries other than the U.S. may be that those countries have stronger incentives to encourage individual investors to participate in the market than the U.S. does.

[5] Fama and French (2001) report that the proportion of U.S. dividend payers was only 20.8% in 1999 and has declined substantially in the last two decades.

[6] Some business reports argue that perks affect stock returns. For example, consider the case of Coles Myers, an Australian company. After introducing a shareholder perk (a shareholder discount card), the number of shareholders swelled from 68,000 to 580,000. When Coles Myers cancelled its discount card in 2005, the company's share price fell by nearly 17% the following day (http://www.theage.com.au/articles/2004/07/29/1091080376943.html?from=storylhs).

in Japanese public companies is approximately 2.0% in our sample, which is larger than the average dividend yield (approximately 1.6%). We thus consider shareholder perks to be *a pseudo-dividend only for retail shareholders.*[7] The aggregate value of the perks that firms offer is markedly smaller than a total dividend payment. The average total payment for perks is approximately 0.1% of firm value in our sample. It would be difficult to use shareholder perks as a means to signal future performance or to alleviate a free cash flow problem, such as a cash dividend.

To examine the role of shareholder perks, we offer the following three hypotheses: (1) the Investor base hypothesis, (2) the Entrenchment hypothesis and (3) the Advertising hypothesis. The introduction of perks may attract attention from individual investors who face informational problems, e.g., the winner's curse problem, because adopting shareholder perks only increases an individual's yield or improves their recognition.[8] Merton (1987) argues that an increase in the relative size of a firm's investor base reduces the firm's cost of capital, i.e., the cost of information completion, and increases its market value. The Investor base hypothesis is that firms introduce perks as a tool to increase the number of retail shareholders. The hypothesis predicts that firms with low attention from individuals will be likely to introduce perks, and the number of individual shareholders will increase after the introduction. The hypothesis also predicts that the initiation of a shareholder perk will reduce the firm's cost of capital after perk adoption and raise the firm's stock price on the announcement day of adoption.

The introduction of shareholder perks may change a firm's ownership structure because shareholder perks encourage investments by individual shareholders. Grossman and Hart (1980) and Shleifer and Vishny (1986) argue that retail shareholders are not likely to play a monitoring role because their ownership is too small. Further, because shareholder perks increase the payout

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[7] Investors are not taxed on shareholder perks.

[8] Rock (1986) and Beatty and Ritter (1986) argue that newly listed firms pay sweeteners to uninformed investors who face the winner's curse problem to encourage their participation in an offering. Barber and Odean (2008) and Lou (2014) indicate that individual investors are likely to purchase attention-grabbing stocks.

yield only for retail shareholders, the special treatment transfers wealth from large shareholders to retail shareholders. Large shareholders who have a monitoring role and dislike such a transfer will sell off their positions after shareholder perks are initiated. Therefore, managers may introduce shareholder perks to entrench themselves (Entrenchment hypothesis). Several existing papers show that manager entrenchment destroys firm value (e.g., Stulz (1988), Morck, Shleifer, and Vishny, (1988), McConnell and Servaes, (1990), Barclay, Holderness, and Sheehan (2007), and Faleye (2007)). The Entrenchment hypothesis predicts that the stock return on the initiation announcement day will drop and that institutional ownership and operating performance will decrease after the introduction.

In many cases, firms pay out their own products as perks. Such firms may use their perks as an effective advertising tool because the opportunity for their individual shareholders to use their products increases. The Advertising hypothesis predicts that a business-to-consumer company (hereafter, a B-to-C company) will be likely to introduce its product as perks. Furthermore, the operating performance of a B-to-C company that uses its own products as perks will increase after adoption, and this firm's stock return on the announcement day of adoption will be positive.

All of the above-mentioned hypotheses are based on the premise that small investors have a higher interest in shareholder perks than large investors. The difference in preferences among investors has attracted attention from many researchers. Numerous existing papers examine the difference in tax and dividend preferences among investors on ex-dividend day, i.e., the tax and dividend clientele effect (e.g., Elton and Gruber (1970), Kalay (1982), Eades, Hess, and Kim (1984), Michaely (1991), Michaely, Thaler, and Womack (1995), Green and Rydqvist (1999), Seida (2001) and Graham, Michaely, and Roberts (2003)). However, these studies provide mixed evidence about whether the clientele effect exists. Shareholder perks have a stronger influence on the difference in preferences among shareholders than a change in dividends or capital gain taxes. Furthermore, as mentioned above, the total value of shareholder perks is low. If the difference in preferences among investors does not affect stock trading, the ex-perk day return and volume will be not significantly changed, unlike ex-dividend day stock behavior.[9] The stock behavior around the ex-perk day provides an opportunity to clearly examine whether the clientele effect exists.

This paper uses Japanese data to examine these predictions, which provides several benefits. We can collect extensive perk data because many Japanese firms have introduced shareholder perks. In addition, Japanese public companies are required to release the number of individual shareholders each year. Therefore, we are able to examine the behavior of individual shareholders carefully.

We find the following. First, firms that have a low number of individual shareholders, have high board ownership, and operate as B-to-C companies tend to initiate shareholder perks. Second, the number of individual shareholders increases dramatically after perk initiation. Although the average institutional ownership does not change around the perk initiation, the average individual ownership increases by approximately 3%. Third, operating performance does not change around perk initiation. Fourth, the announcement day return is significantly positive, at approximately 3%. The increasing ratio of the number of individual shareholders around initiation is positively associated with the announcement return. However, B-to-C companies do not significantly associate with the announcement return. Fifth, the average cost of capital decreases significantly after perk initiation. Additionally, the decrease in the cost of capital after perk initiation is positively associated with Merton's shadow costs and negatively related with the increasing ratio of the number of individual shareholders. Finally, the price drop on the ex-perk day is nearly equal to the perk yield for retail shareholders. The average abnormal trading volumes around the ex-perk day are significantly positive. The number of individual shareholders is positively associated with the

[9] Even if the market is perfect, the ex-dividend day return will be negative.

price drop and the trading volume around the ex-perk day.

These findings are consistent with the Investor base hypothesis and inconsistent with both the Entrenchment and the Advertising hypotheses. Our findings imply that special treatment provided to individual stockholders is in the interest of all current shareholders.[10] Merton (1987) argues as follows: "*If an increase in the size of a firm's investor base is in the best interest of the current stockholders, then management should expend resources of the firm to induce investors who are not currently shareholders to incur the necessary costs of becoming aware of the firm (p.500).*" Our findings regarding stock behavior around the ex-perk day are also consistent with the dynamic dividend clientele model of Michaely and Vila (1995) and Michaely and Vila (1996), in which the expected price drop and the trading volume around the ex-day are reflected by the difference in preference among investors.

Our results contribute to the existing literature in several ways. First, our paper is the first that examines the role of shareholder perks as special treatment for retail shareholders. Because shareholder perks are used around the world, our results will provide many firms in these countries with a suggestion, e.g., the drivers of adoption, regarding the effect of perks on ownership change, firm value, and stock behavior around the ex-perk day.

Second, our paper contributes to the Investor base literature. A large number of studies examine various events or variables to test Merton's (1987) Investor base model, e.g., exchange changes (Kadlec and McConnell (1994)), cross-listings for foreign companies (Foerster and Karolyi (1999), changes in minimum trading units (Amihud, Mendelson, and Uno (1999)), the initiation of analyst coverage (Irvine (2003)), advertising expenditures (Grullon, Kanatas and Weston (2004) and Lou (2014)) and company name fluency (Green and Jame (2013)). Most existing studies, excluding Amihud et al. (1999) and Green and Jame (2013), use the number of

[10] B-to-C companies may not use their products as perks for advertising but instead for cost savings.

analysts, institutional shareholders, and total shareholders in recognizing investors and do not focus on the number of *retail* shareholders. Further, Bondnruk and Östberg (2013) show that the shareholder base affects the payout policy. Our paper extends these papers by using the unique payout and focusing on the number of *retail* shareholders.

Finally, our paper contributes to the clientele literature on payout policy. Numerous previous papers examine the clientele effect through the ownership shift around dividend adoption and dividend-related taxation changes (Michaely et al. (1995), Grinstein and Michaely (2005), Graham and Kumar (2006), and Korkeamaki, Liljeblom and Pasternack (2010)), stock return around ex-dividend day (Elton and Gruber (1970), Kalay (1982), Eades et al. (1984), Michaely (1991), Green and Rydqvist (1999), and Graham et al. (2003)), and trading volume around ex-dividend day (Michaely et al. (1995), Seida (2001) and Rantapuska (2008)). Using the unique payout event, our paper provides findings that are consistent with the clientele effect in these studies.

The remainder of the paper is organized as follows. Section 2 describes the features of Japanese shareholder perks. Section 3 describes our data. In Section 4, we report our empirical results and discuss our findings. Section 5 contains our conclusions.

2. Shareholder perks in Japan

A shareholder perk is a gift to shareholders. The gift is not in the form of money but consists of the firm's products or those of another firm. For example, ANA, a famous Japanese airline, provides a 50% discount coupon for airline tickets to shareholders who hold more than 1,000 shares (the minimum trade unit). The stock price of ANA on Feb 28, 2014 is ¥227. Therefore, investors who invest ¥227,000 (approximately $2,270) in ANA stock can receive the discount coupon as a perk.

Figure 1 indicates the number and percentage of Japanese companies with shareholder perks. The percentage of public companies with shareholder perks has increased gradually, exceeding 28% in 2011. During our sample period, the average percentage of public companies with shareholder perks is 24.75%. The number of firms with shareholder perks increased through 2008 but decreased as the total number of public firms in Japan decreased due to mergers, acquisitions and delistings.

We examine the 6-digit industry classifications (Nikkei 139 small-size industry classifications) of firm-year samples with shareholder perks from January 2001 to December 2011.[11] The number of B-to-C companies is 15,246 firm-year samples (approximately 38.87% of the total 39,228 firm-year samples), which is fewer than the number of business-to-business companies (hereafter B-to-B companies). B-to-C companies (6,413 firm-year samples and 66.03% of the total sample of 9,712) are more likely to adopt shareholder perks than B-to-B companies (3,299 firm-year samples and 33.97% of the total sample). Among B-to-C companies, 86.13% of the firms that offer shareholder perks use their own products or services as perks (only 871 of the B-to-C companies use other firms' products, e.g., gift cards or food, as perks). Of the B-to-B sample, 46.98% use products that are relevant to their company as shareholder perks.[12] These results are consistent with the advertising tool concept, which states that firms tend to use perks as a marketing strategy.

In approximately 50% of all companies that have adopted shareholder perks, the value of the perk that investors receive increases as the number of shares held increases. However, because the rate of increase in perk value is quite low, in nearly all cases, minimum-unit stockholders receive the highest value. For example, Toyo Suisan, which is a major food company, provides two types of shareholder perks. The first is a gift of its food with a value of ¥3,000 for shareholders who hold between 1,000 (the minimum trade unit) and 5,000 shares. The second is a similar gift with a value of ¥5,000 for shareholders who hold more than 5,000 shares. For large stockholders, the yield of

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[11] We cannot use the 3-digit industry classification system to classify B-to-C companies. For example, auto parts suppliers and auto dealers are both classified as belonging to the auto industry. However, auto parts suppliers are B-to-B companies, whereas auto dealers are B-to-C companies.

[12] For example, although a parts company is a B-to-B company, when a parts company uses end products made using their parts as shareholder parks, we classify such perks as their own product perks.

the shareholder perk is quite small and nearly valueless.

Shareholders commonly receive their perks at the time that the company's financial book closes. If a firm pays its perks twice per year, shareholders can receive a perk at both book and interim closings. If a firm also pays a dividend, the timing of the perk is the same as the timing of the dividend payment, i.e., the ex-dividend day and the ex-perk day are the same day.

3. Data

We use shareholder perk data collected from the Japan Company Handbook (in Japanese, Kaisha Shiki Hou), for all publicly traded firms in Japan for the period from January 2001 to December 2011. The Japan Company Handbook provides data on the name and ticker of companies that have adopted perks, the values of those perks, the minimum number of trading shares required to receive shareholder perks, the types of perks offered, and the timing of perk payment.

Announcement dates of the initiation of shareholder perks are obtained from the eol ESPer database. When a Japanese company introduces a stockholder perk, it is not required to make an official announcement through a press release.[13] Therefore, we collect information regarding announcement days only from companies that voluntarily issued press releases. The eol ESPer database contains voluntarily issued press releases announcing the initiation of perks. We obtained 429 samples of the announcement date of shareholder perks.

Financial data, the number of shareholders, the ownership of firms, the names of the top 10 shareholders, the value of dividends, the existence of anti-takeover defenses, and industry classifications are obtained from the Nikkei NEEDS Financial Quest database. We collect data related to stock prices, stock returns, and three-factor portfolio returns from the NPM portfolio master database. We also obtain the liquidity factor of Pastor and Stambaugh (2003) from Professor Hitoshi Takehara of Waseda University. Information on the number of directors on the board and

[13] See the Tokyo Stock Exchange home page (http://www.tse.or.jp/sr/faq/index.html#title_6_4).

the number of outside directors is obtained using Board data from Toyo Keizai Inc.

4. Examination

4.1. The determinants of perk initiation

We begin by examining the determinants of shareholder perk initiation. Our sample for this analysis includes public firm-years from 2001 to 2011 unless (1) the firm had already adopted a shareholder perk, (2) the firm is a financial firm, or (3) the data used in the analysis are unavailable. The number of firms in our firm-year sample is 27,196, and the number of firms that initiated perks in the next year during the sample period is 544.[14] We use the sample to examine the drivers of shareholder perk initiation.

We first compare firm characteristics between the Initiation and Non-Initiation sample. Table 1 presents descriptive statistics for the sample. Column one shows the summary statistics for our total sample; summary statistics for the Initiation and Non-Initiation samples are separately documented in columns two and three, respectively. The total number of individual shareholders, *# of individual shareholders*, and the *individual shareholder ratio*, which is defined as the percentage of individual shareholders to total shareholders, are the proxies for the number of individual investors. We find that the *# of individual shareholders* and the *individual shareholder ratio* for the initiation sample are significantly lower than for the non-initiation sample. These results are consistent with the idea that the initiation sample has a low number of individual shareholders.

We compare ownership and governance structures. To calculate total retail investor ownership, we define *individual ownership,* which deducts the ownership of individual shareholders who are Top 10 shareholders from total individual ownership. Comparing *individual*

[14] To examine the determinants of perk initiation, we also use a sample constructed using initiation and matching samples (one to one matching). We select as matching companies non-adopting firms where the ROA is nearest to the adopting firm in the range of 80% to 120% of scale (book assets). We arrive at nearly the same results.

ownership, we find that the initiation sample tends to be much lower than the non-initiation sample. These results imply that the initiation sample is less attractive to individual investors. We define *Top 10 ownership*, *Board ownership* and *Institutional ownership* as the sum of the top 10 shareholders' ownership, board members' ownership and institutional ownership, respectively. The mean *Top 10 ownership* for the initiation sample is approximately 4% larger than that for the non-initiation sample. In particular, the mean *Board ownership* for the initiation sample is approximately 7% larger than that for the non-initiation sample. However, the mean *Institutional ownership* in the initiation sample is approximately 2% lower than that in the non-initiation sample. Companies in which management intentions are easily adopted may have introduced shareholder perks. We use the *% of outside directors* and *anti-takeover defense* as proxies for corporate governance. The variable *% of outside directors* is defined as the percentage of the number of outside directors to the total number of directors. *Anti-takeover defense* is a dummy variable that is equal to one if the firm adopts an anti-takeover defense and zero otherwise. Although there is no significant difference in *% of outside directors* between the initiation and the non-initiation samples, the *anti-takeover defense* for the initiation sample is lower than that for the non-initiation sample.

To compare the other characteristics between the initiation and non-initiation samples, we use several proxies: *Market Asset*, *Leverage*, *ROA*, *Excess Cash*, *Tobin's Q*, *Dividend,* and *B-to-C company. Market Asset* is a size proxy and is defined as the market capitalization at the closing price of the previous fiscal year plus the debt book value of the firm from the previous fiscal year. The number of shareholders may be strongly correlated with firm size. *Leverage* is defined as the sum of short- and long-term leverage over book assets of the previous fiscal year. There is no significant difference in *Market Asset* and *Leverage* between the initiation and the non-initiation samples. *ROA* is the operating profit over book assets of the previous fiscal year. *Excess Cash* is the residual from regressing cash holdings on firm-specific characteristics and represents the firm's excess cash holdings.[15] *TobinQ* is a proxy of growth opportunities and is defined as the sum of market capitalization and book debt over book assets. The mean *ROA* and *TobinQ* in the initiation sample are larger than in the non-initiation sample. *Dividend* is a dummy variable that is equal to one if a firm pays a dividend and zero otherwise. *B-to-C company* is a dummy variable that is equal to one if the firm is a business-to-consumer company and zero otherwise. *B-to-C companies* tend to initiate shareholder perks, which is consistent with the idea of shareholder perks as marketing tools.

We next conduct multivariate logistic regression analyses of the determinants of shareholder perk initiation. The dependent variable in the regression is *Initiation,* which is a dummy variable equal to one if a firm initiates a shareholder perk and zero otherwise. We focus on the independent variable of *ln(# of individual shareholders)* and *Individual shareholder ratio* as the proxies for the Investor base hypothesis. If companies with a low number of individual shareholders tend to initiate shareholder perks to attract individual investors, the predicted signs of *ln(# of individual shareholders)* and *Individual shareholder ratio* will be negative. We also focus on the ownership of retail shareholders as a proxy of the incentive to change ownership. If the governance mechanism discourages managers working toward entrenchment from adopting the perk, the proxies for the governance mechanism will be negatively associated with perk initiation. We use *Institutional ownership*, *Board ownership*, *% of outside directors*, and *Anti-takeover* as the governance proxies. The Entrenchment hypothesis predicts that these variables are negatively associated with perk initiation. To examine the advertising concept, we use the *B-to-C company* variable. If firms introduce a perk as an advertising tool, a *B-to-C company* will tend to introduce the perk. We therefore predict that the coefficient of *B-to-C company* will be positive. As control variables, we used the following variables: *ln(Market Asset)*, *ROA*, *Leverage*, *Excess Cash*, *TobinQ*, *Dividend*,

[15] The residual from regressing cash holdings on firm-specific characteristics represents the firm's excess cash holdings. The first step regression is as follows: *(Cash/Book Asset)* = 0.55+0.1**Cash flow* + 0.65**Volatility* - 0.22**Leverage* +1.64**Dividend* - 0.06**CapEx* + 0.03**TobinQ* - 0.01**ln(Market Asset)*+ *Year dummy* + *Industry dummy*.

Year indicator dummy variables and Industry indicator dummy variables.[16]

Table 2 shows the logistic regression results. The coefficients of *ln(# of individual shareholders)* and *Individual shareholder ratio* are negatively associated with the probability of perk initiation in all of the models that include those variables. The *ln(# of non-individual shareholders)* is not negatively associated with the probability of perk initiation in Models 2 and 5. These results imply that firms with low attraction for individual shareholders tend to initiate shareholder perks and are consistent with the Investor base hypothesis. Although the coefficient of *Individual ownership* is negative in Model 3, it is not significantly negative in the other models. In all of the models, the coefficient of Board ownership is significantly positive. Thus, managers of firms with high board ownership tend to introduce perks. The other governance proxies are not significantly associated with the probability of perk initiation. These results are not consistent with the predictions of the Entrenchment hypothesis. The coefficient of *B-to-C company* is significantly positive in all of the models. The results are consistent with the advertising tool concept.

Firms may use shareholder perks to signal future performance or to alleviate a free cash flow problem, similar to a cash dividend. The signaling idea predicts that firms with high informational asymmetries will be likely to initiate shareholder perks. We use *ln(Market Asset)* as a proxy for informational asymmetries. The idea behind alleviating a free cash flow problem is that overinvestment problems are likely to be more pronounced in cash-rich firms without many growth opportunities. If the idea is supported, *TobinQ* will be negatively and *Excess Cash* will be positively associated with perk initiation.[17] We find that *ln(Market Asset)* is positively and *Excess Cash* is negatively associated with the probability of perk initiation. *TobinQ* is not significantly or marginally associated with perk initiation. These findings are not consistent with the signaling and

[16] We use the 33 Nikkei medium industry classifications.

[17] Lang and Litzenberger (1989) use Tobin's Q as a proxy for growth opportunities and examine the relation between Tobin's Q and stock performance after an increase in dividends. They find that the performance of high Tobin's Q firms after an increase in dividends is stronger than the performance of low Tobin's Q firms. Lie (2000) examines the relation between excess cash and firm payouts. He finds that cash-rich firms are likely to increase dividends and repurchases.

free cash flow idea that shareholder perks are used as a dividend.

4.2. Number of shareholders, ownership and operating performance around perk initiation

In this section, we examine the number of shareholders, the ownership, and operating performance (*ROA*, *ROS*, and *SOA*) around the time of shareholder perk initiation using a sample of 536 perk adoptions. We exclude the 8 samples from the 544 perk initiation sample in the previous section because we cannot use financial statistics for firms after delisting. *ROA* is operating profits over book assets, *ROS* is operating profits over sales, and *SOA* is sales over book assets. The Investor base hypothesis predicts that the number of individual shareholders will increase after shareholder perk initiation. If shareholder perks encourage managerial entrenchment, the ownership of retail shareholders will increase and institutional ownership will decrease after perk initiation. The Entrenchment hypothesis also predicts that operating performance will decrease after perk initiation because agency problems worsen. The Advertising hypothesis predicts that operating performance, particularly in B-to-C companies with perks tied to their own products, will improve following the initiation of shareholder perks.

To control for various features of the initiation firms (specifically, firm size, growth opportunities, profitability, and risk), we use a difference-in-difference (hereafter *DID*) estimator of the number of shareholders, ownership and ex-post operating performance variables. The *DID* estimator is defined as follows:

$$DID_N = (Variable_{t+N}^T - Variable_t^T) - (Variable_{t+N}^C - Variable_t^C)$$

where *Variable* indicates the number of shareholders, ownership, or performance variables; and *T* and *C* denote the treatment and control groups, respectively. Treatment and control observations are matched to examine the change in the variables around the time of perk initiation. The lower case *t* represents the fiscal period immediately before perk initiation; *N* is the fiscal period covering two or three years after perk initiation. The method of control group selection is explained in Appendix A.

Table 3 shows the *DID* results for the number of shareholders, ownership and operating performance around the time of perk initiation. The number of individual and non-individual shareholders significantly increases from *t* to *t+3*.[18] These results imply that recognition from investors improves after perk initiation. The *Individual shareholder ratio* increases after perk adoption. These results imply that there may be greater improvement in individual recognition than in non-individual recognition. We also find that ownership per individual shareholder decreases after perk initiation. These results support the clientele effect and the Investor base hypothesis.

We find that although *Individual ownership* increases by approximately 1.5% between *t* and *t+3, Institutional ownership* does not significantly change around the time of perk initiation. Not all performance variables decrease around perk initiation. These results are not consistent with the Entrenchment hypothesis. Board ownership decreases by approximately 0.9% from *t* to *t+3.* This result implies that a decrease in board ownership is covered by an increase in individual ownership. The operating performance variables of B-to-C companies that use their products as perks do not improve following perk initiation. These results are inconsistent with the Advertising hypothesis.

4.3 Announcement-day return

The results of Sections 4.1 and 4.2 imply that firms with a low number of individual shareholders are likely to initiate shareholder perks and that the number of individual shareholders increases following perk initiation. According to Merton's (1987) Investor base model, an increase in the

[18] Using the panel regression followed by Grullon et al.'s (2004) specification, we examine the effect of shareholder perks on the number of individual investors and find that shareholder perks are positively associated with the number of individual shareholders and individual ownership.

number of shareholders decreases a firm's cost of capital and raises its stock price. The Investor base model predicts that the announcement of a perk should raise the stock price in firms with shareholder perks, which attract individual shareholders. The Entrenchment hypothesis predicts that the stock return on the announcement day of a perk initiation will be negative. The Advertising hypothesis predicts that the stock return on the announcement day will be positive in a B-to-C company.

In this section, we examine stock returns on the announcement day of perk initiation. To examine abnormal returns on adoption announcement days, we collect data from 429 firms that announced perk adoption from January 2001 to December 2011. We exclude non-public firms in previous book closings, financial companies, firms that announced a stock split or changed the trading unit on the same day, and firms for which 150 days or more had passed since their IPO. Because 122 samples are excluded, we use the remaining 307 samples to examine announcement day returns.

To examine abnormal stock returns on the announcement day, we use the market model. Abnormal returns are computed as follows:

$$AR_{i,t} = Return_{i,t} - \widehat{\alpha_i} - \widehat{\beta_i} RM_t$$

$$CAR_i[d,T] = \sum_{t=d}^{T} AR_{i,t}$$

where $Return_{i,t}$ is the stock return on day t for firm i, and RM is the value-weighted return for all listed firms. $AR_{i,t}$ is the abnormal return for firm i on day t. Coefficient estimates are obtained using an OLS regression on estimation period returns. The estimation period is -150 days to -11 days before the announcement day. $CAR_i[d,T]$ is the cumulative abnormal return for firm i from day d to day *T*.

Table 4 present the abnormal returns and cumulative abnormal returns around the announcement day of the initiation of perks. We find that cumulative abnormal returns from day -1 to day +1 are significantly positive—approximately 2%. These results are consistent with the Investor base and the Advertising hypotheses and inconsistent with the Entrenchment hypothesis.

To examine the relationship between the increasing number of individual shareholders and cumulative abnormal returns, we use the variables *IR_IND* and *ΔIndividual shareholder ratio*. *IR_IND* and *IR_NON_IND* denote increasing ratios for the number of individual and institutional shareholders, respectively, from year *t* to *t+2 (i.e., IR_IND = # of individual shareholders*$_{t+2}$ */ # of individual shareholders*$_t$ *– 1, IR_NON_IND = # of non_individual shareholders*$_{t+2}$ */ # of non_individual shareholders*$_t$ *– 1).*[19] Year *t* is the accounting period immediately preceding perk initiation. *ΔIndividual shareholder ratio* is the difference in the *Individual shareholder ratio* from the fiscal period immediately before perk initiation to the fiscal period two years after perk initiation. The Investor base hypothesis predicts that the *IR_IND* and *ΔIndividual shareholder ratio* are positively associated with the cumulative abnormal return around the announcement day. To examine the Advertising hypothesis, we use the product dummy, *OWN*, which is equal to one if the firm uses its products as shareholder perks and zero otherwise. The Advertising hypothesis predicts that *OWN* is positively associated with the cumulative abnormal return around the announcement day.

Panel A of Table 5 shows the summary statistics for the announcement sample. The mean (median) *IR_IND* and *IR_INST* are 1.335 (0.408) and 0.174 (0.059), respectively.[20] The mean *ΔIndividual shareholder ratio* is 0.022. Of the B-to-C companies, 62.7% use their own products as perks in the announcement day return sample.

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[19] When we use increasing ratios from *t* to *t+1*, the results are qualitatively similar. In this paper, we only report results for increasing ratios from *t* to *t+2*.
[20] *IR_IND* and *IR_NON_IND* are winsorized at the upper and the lower 1% level.

Panel B of Table 5 presents the OLS regression results for cumulative abnormal returns around the announcement day of the perk initiation. The dependent variable is the cumulative abnormal return from *AD*–1 to *AD*+1, *CAR[–1,+1]*. The independent variables that we most focus on are *IR_IND*, *ΔIndividual shareholder ratio*, and *OWN*. We find that the coefficients of *IR_IND* and *ΔIndividual shareholder ratio* are significantly positive in all of the models. The results imply that the high attractiveness of perks for individual shareholders raise the stock price on the announcement day, which is consistent with the Investor base hypothesis. The dummy variable of *B-to-C company* is not significantly associated with cumulative abnormal returns. The coefficient of *OWN* in Models 5 and 6 is not statistically significant. These results are not consistent with the Advertising hypothesis.

As control variables, we use *IR_INST*, *Ownership structure*, *Market Asset*, *Leverage*, *ROA*, and *TobinQ*. The coefficient of *IR_INST* is significantly negative in Models 3 and 4, although the coefficient in Model 2 is not statistically significant. These results are inconsistent with the institutional investor base idea in which firms introduce shareholder perks that attract institutional investors to increase their stock price. Although the coefficients of individual ownership and board ownership are not statistically significant, institutional ownership is negatively related with cumulative abnormal returns. The coefficient of *ln(Market Asset)* is not statistically significant. Because we can consider the market asset variable to represent informational asymmetry, the result shows that the market does not evaluate the signal as an alleviation of informational asymmetry, unlike cash dividend results. Moreover, *TobinQ*, which is the proxy of growth opportunities, is not associated with announcement returns. These results imply that the perk is not evaluated as fulfilling the role of easing a free cash flow problem in the markets.

4.4.Cost of Capital

Next, we examine the cost of equity capital around the time of the initiation of a shareholder perk. Merton (1987) develops a model of capital market equilibrium in an incomplete information market. Merton's model assumes that each investor purchases only shares for which they can obtain the information. Under this assumption, each investor cannot diversify the idiosyncratic risk in their portfolio. In equilibrium, a security's expected return depends on the fraction of investors that purchase the security. Merton formally derives the shadow cost, λ, and the expected return, $E(R_i)$, of incomplete information for a security as follows:

$$\lambda_i = \left(\frac{1}{q_i} - 1\right)\delta x_i \sigma_i^2$$

$$E(R_i) - E(R_i^*) = \lambda_i \frac{E(R_i^*)}{R_f}$$

where q_i is the size of the investor base of firm *i* relative to the total number of investors, δ is the parameter of the investor's risk aversion, x_i is the market value of firm *i* in proportion to the total market value of all traded securities and σ_i^2 is the diversification of idiosyncratic risk. $E(R_i)$ is the expected return on firm *i* with incomplete information, $E(R^*)$ is the expected return on firm *i* with complete information, and R_f is the risk-free rate.

In Merton's model, an increase in the size of the investor base and in the shadow cost decreases the cost of equity capital. If the investor base concept is supported, the introduction of a perk that attracts individual investors will reduce the cost of equity capital. We examine the effect of a change in the number of individual shareholders on the cost of capital by using the changes in Merton's shadow cost, λ, around perk initiation. Following Kadlec and McConnell (1994), we estimate the change in Merton's shadow cost, $\Delta\lambda$:

$$\Delta\lambda = \left[\left(\frac{RVAR_{post} * RELCAP_{post}}{NIND_{post}}\right) - \left(\frac{RVAR_{pre} * RELCAP_{pre}}{NIND_{pre}}\right)\right] * 1{,}000{,}000$$

where $NIND_{pre}$ and $NIND_{post}$ are the number of individual shareholders of the end of the most recent fiscal year prior to the perk initiation announcement date and at the second fiscal year end after the announcement date, respectively. $RVAR_{pre}$ and $RVAR_{post}$ are the stock's residual variance calculated from the daily date over the interval [-150, -11] prior to the announcement date and over the interval [11, 150] following the second fiscal year end after the announcement date, respectively. $RELCAP_{pre}$ and $RELCAP_{post}$ are the firm's market capitalization divided by the sum of the market capitalization of all stocks available on the NPM portfolio master data base, calculated at the end of the month prior to the announcement date and the end of the second fiscal year following the announcement date, respectively.

To examine whether the cost of capital is reduced through perks that attract individual investors, we use Fama and French's three-factors and Pastor and Stambaugh's (2003) liquidity factor.[21] We run the following time-series regression for each firm that adopted a perk:

$$r_{i,t} - r_{f,t} = \alpha_{i,0} + \alpha_{i,1}D_t + (\beta_{i,0} + \beta_{i,1}D_t)(r_{m,t} - r_{f,t}) + (\gamma_{i,0} + \gamma_{i,1}D_t)SMB_t + (\delta_{i,0} + \delta_{i,1}D_t)HML_t + (\sigma_{i,0} + \sigma_{i,1}D_t)LIQ_t + \varepsilon_{i,t}$$

where $r_{i,t}$ is the monthly return of adoption firm *i* at time *t*, and $r_{f,t}$ is the risk-free rate at time t. $D_t = 1$ if *t* is in the post-adoption period and $D_t = 0$ otherwise. $\beta_{i,0}, \gamma_{i,0}$, $\delta_{i,0}$, and $\sigma_{i,0}$are the pre-adoption factor loadings on the three Fama-French factors and Pastor and Stambaugh's liquidity factor. $\beta_{i,i}$, $\gamma_{i,i}$, $\delta_{i,1}$, and $\sigma_{i,1}$ indicate the differences between the post- and pre-adoption factor loadings on the four factors. $\alpha_{i,0}$ is the pre-adoption abnormal return. Our main

[21] Using the relative volume and the ILLQ measure, as in Amihud, Mendelson, and Lauterbach (1997), we also examine liquidity around the initiation of a perk. However, we do not find an average improvement in liquidity associated with shareholder perks.

variable of interest is α_1, which is the difference between post- and pre-adoption abnormal returns. To avoid an announcement effect, we run the regression for each firm for a 46-month period, from month – 24 to month – 2 prior to the shareholder perk declaration month and from month + 2 to month + 24 after the shareholder perk declaration month.

Table 6 presents the summary of the cost of equity capital (α_1) calculated by FF3/LIQ, the FF3- and one-factor models and the difference tests of the cost of equity capital using the change in Merton's shadow cost ($\Delta\lambda$). We winsorize each variable at the 1st and 99th percentiles. We divide the total sample into four groups based on $\Delta\lambda$ to examine the effect of the change in shadow costs on the change in the cost of capital. The increasing rate of the number of individual shareholders, *IR_IND*, and the change in the individual shareholder ratio, *ΔIndividual shareholder ratio*, are negatively associated with $\Delta\lambda$. We find that the difference between post- and pre-adoption abnormal returns in the lowest $\Delta\lambda$ subgroup is significantly lower than that in the highest $\Delta\lambda$ subgroup. These results are consistent with the Investor base hypothesis.

Table 7 presents the OLS regression results for the difference between post- and pre-adoption abnormal returns. The dependent variable is α_1 calculated using the FF3/LIQ model. Our independent variables of interest are $\Delta\lambda$, *IR_IND* and *ΔIndividual shareholder ratio*. The recognition concept predicts that the coefficient of $\Delta\lambda$ will be positively *and IR_IND* and *ΔIndividual shareholder ratio* will be negatively associated with α_1. We also use *IR_NON_IND, B-to-C company, ln(Market Asset), Unsystematic risk, Leverage, ROA,* and *TobinQ* as control variables. *Unsystematic risk* is the mean square error computed as the deviation of the stock price from the value predicted by the market model for the period from -150 days to -11 days before the announcement day. We find that the coefficient of $\Delta\lambda$ is positively and the coefficients of *IR_IND* and *ΔIndividual shareholder ratio* are negatively associated with the difference between post- and pre-adoption abnormal returns in Models 2 to 5. The results in this section suggest that shareholder perks that attract individual shareholders reduce the cost of equity capital. These findings are consistent with the Investor base hypothesis.[22]

4.5.Ex-perk day return and volume

4.5.1. Ex-perk day return

As mentioned above, the shareholder perk yield is different for retail and large shareholders. We find that ownership changes around shareholder perk initiation. These findings are consistent with the dividend clientele effect. The ex-perk day analysis also provides an opportunity to examine whether the dividend clientele effect exists, for example, based on the dividend-related tax difference between retail and large shareholders. We examine stock returns and trading volumes around the ex-perk day.

The ratios of the total value of shareholder perks to capitalization are close to zero. In a perfect market, the ex-perk day return will also be close to zero. The Dynamic dividend clientele model of Michaely and Vila (1995) and Michaely and Vila (1996) indicates that the expected price drop on the ex-dividend day reflects the average preference of all traders.[23] The Dynamic dividend clientele model predicts that if retail investors participate in ex-perk day trading, their preference will have a significant effect on the ex-perk day return.

We obtain a sample of 8,163 ex-perk days from 2001 to 2011. There are many firms that have released the value of their perks. We collect from the sample those for which we can calculate the shareholder perk yield. The number of ex-perk days for which we can specify perk values (e.g., a $100 Amazon gift card for each investor holding more than 100 shares) is 3,279. Among the 3,279 ex-perk days, 2,844 are on the same day as the ex-dividend day, and the remaining 435 ex-

[22] We also use α_1 calculated using the FF3-factor and the one-factor models as a dependent variable. The results are qualitatively similar.

[23] The model also incorporates the risk involved in the ex-day transaction and transaction costs. Kalay's (1982) and Boyd and Jagannathan's (1994) models incorporate the transaction costs into the ex-dividend day return.

perk days are not on an ex-dividend day. In addition, we collect a sample of 21,631 ex-dividend days that are not also ex-perk days to compare the ex-perk day return.

Perk values differ for retail and non-retail shareholders. We calculate the perk's yield as follows:

$$PVPS_{retail,i} = \frac{Perk\ value\ per\ minimum\ shareholder_i}{The\ number\ of\ minimum\ trading\ share_i}$$

$$PVPS_{total,i} = \frac{Total\ Perk\ value_i}{Total\ num\ of\ oustanding\ shares_i}$$

$$PY_{retail,i} = \frac{PVPS_{retail,i}}{P_{cum,i}}$$

$$PY_{total,i} = \frac{PVPS_{total,i}}{P_{cum,i}}$$

$$DY_i = \frac{D_i}{P_{cum,i}}$$

$$Total\ yield_i = PY_{retail,i} + DY_i$$

$PVPS_{retail,i}$ is the perk value per share for minimum-unit investors in firm *i*.[24] $PVPS_{retail}$ is the highest perk value per share for firm *i*'s investors. $PVPS_{total}$ indicates the average perk value per share. $P_{cum,i}$ is the closing price of firm *i* on cum-day. PY_{retail} and PY_{total} represent the perk yields for retail investors and average investors, respectively. D_i is the dividend per share of firm *i*, and *DY* is the dividend yield. If trading by retail investors affects the ex-perk day return, the ex-day return will more closely approximate $Total\ yield_i$ than the sum of PY_{total} and DY_i. We also calculate the premium on ex-day returns, *Premium*, as follows:

[24] In Japan, all firms have minimum trading units. We adjust the minimum trading unit to examine $PVPS_{retail}$. For example, suppose the minimum trading size of company A is 100 shares and company A's perk is a $100 Amazon gift card for each investor who holds more than 100 shares. If the investor purchases only 100 shares, he/she can obtain the $100 Amazon gift card. Thus, $PVPS_{retail}$ = $100/100 shares.

$$Premium_i = \frac{P_{cum,i} - \frac{P_{ex,i} + D_i}{1 + E[r_i]}}{\frac{PVPS_{retail,i}}{1 + E[r_i]}} - 1$$

where $P_{ex,i}$ is the closing price of firm *i* on ex-day, and $1 + E[r_i]$ is the prospective return. If a firm does not pay a dividend, the value of *D* is zero. To estimate $E[r_i]$, we use the market model, which provides an estimation window of 140 days from -150 to -11 days prior to ex-day. We winsorize the *Premium* at the 1st and 99th percentiles to minimize the influence of outliers.

Table 8 presents the summary statistics for the raw return on ex-day, the perk yield, the dividend yield, the total yield, and the discount. Columns 1, 2, and 3 show the summary statistics for the total ex-perk day sample, only the ex-perk-day sample and a simultaneous ex-day sample, respectively. Column 4 shows the summary statistics for only the ex-dividend-day sample. The mean (median) raw return on the ex-day of every ex-perk sample is negative. The average (median) PY_{retail} is 2.0% (1.2%) in the total ex-day sample. For retail shareholders, the shareholder perk is a very attractive payout. By contrast, other investors will not be attracted by the shareholder perk because the average (median) perk yield for average shareholders (PY_{total}) is 0.1% (0.05%) in the total ex-day sample.

Clearly, *Total yield* is closer to the decline in stock returns on all ex-day samples than *DY* and than the sum of *DY* and PY_{total} in both the only ex-perk-day and the same-day samples. The results imply that the perk yield for minimum-unit shareholders significantly affects the ex-day return. Surprisingly, the mean discount for every ex-perk subsample is significantly positive. These results imply that retail shareholders have an important effect on the ex-day return and evaluate the perk value higher than the value of the equivalent in money.[25]

[25] Numerous studies find that the premium on the ex-dividend day is less than one (Elton and Gruber (1970), Kalay (1982), Eades et al. (1984), Kato and Loewenstein (1995) Graham, et al. (2003)).

We next conduct multivariate OLS regression analyses of *Premium*. The dependent variable in the regression is *Premium*. We focus on the independent variable of *ln(# of individual shareholders)* and *Individual shareholder ratio*. Because shareholder perks are distributed for every shareholder, these variables are proxies for the individual shareholder's demand for shareholder perks. We predict that the *ln(# of individual shareholders)* and *Individual shareholder ratio* will be positively associated with *Premium.* We also predict that *ln(# of non-individual shareholders)* will be negatively associated with *Premium* because the perk value may not be worth consideration for non-individual shareholders. Elton and Gruber (1970) and Kaley (1982) find that the dividend yield is negatively associated with the ex-dividend return. Therefore, we predict that PY_{retail} and *DY* will be positively associated with *Premium*. Institutional investors, who prefer capital gains to perk yields, may play the role of arbitrager in high PY_{retail} stocks. In this case, we predict that PY_{retail} will be negatively associated with *Premium*. Because a gift-card-type perk is more liquid than a product perk, a gift-card-type perk will be evaluated higher than a product-type perk. We predict that *Gift card dummy* will be positively associated with *Premium*. As control variables, we use the *Only perk dummy*, *ln(Market capitalization)*, *Systematic risk*, and *Unsystematic risk*. *Systematic risk* is estimated using beta, and *Unsystematic risk* is defined as the idiosyncratic risk scaled by market variance in the same time period. Beta and idiosyncratic risk are estimated using the market model, where the estimation window is 140 days, running from -150 to -11 prior to the ex-day.

Panels A and B of Table 9 show the summary statistics for the ex-perk sample and the results of the OLS regression, respectively. We find the *ln(# of individual shareholders)* is positively associated with *Premium*. The coefficient of *Individual investor ratio* is significantly negative in Models 3, 4, and 7. These results imply that the demands of different investors affect the ex-day return. The coefficient of *ln(# of non-individual shareholders)* is significantly negative. We also find that PY_{retail} is negatively associated with the discount. These results may reflect the trading of non-individual arbitragers. Karpoff and Walking (1988 and 1990) argue that effective arbitrage trading reduces the excess return on the ex-dividend day. The result is consistent with the effective arbitrage hypothesis (Karpoff and Walking (1988 and 1990)). The type of perk (gift card vs. product) does not affect the discount. Why is the discount significantly positive and why is the gift-card-type perk evaluated at the same value as the product-type perk? One reason may be social norms: in the case of a present, people prefer goods to the same value in cash (Ariely (2008)).[26]

4.5.2. Ex-perk-day volume

The Dynamic dividend clientele model of Michaely and Vila (1995) argues that when ex-day returns are affected by varying investor preferences, trading volumes will increase around the ex-day. In accordance with Dhaliwal and Li (2006), we examine abnormal trading volumes around the ex-perk day as follows:

$$NV_i = \frac{\sum_{t \in [-150,-11]} Tunover_{i,t}}{140}$$

We calculate the average turnover ratio for trading between -150 and -11 days before the ex-perk day:

$$AV_{i,t} = \frac{Tunover_{i,t}}{NV_i} - 1$$

Next, we calculate *AV* and *AAV*. AV_t is turnover on day *t* divided by *NV*. *AAV* is the average abnormal volume around the ex-perk day.

Table 10 presents summary statistics of *AV* and *AAV*. Columns 1, 2 and 3 show the results

[26] Many managers who initiate perks say “We would like to send our gratitude to our stockholders.”

for the total ex-perk day sample, the only ex-perk day sample, and a simultaneous ex-day sample, respectively. The *AV* of all of the columns increases gradually until immediately before the ex-perk day and decreases gradually after the ex-perk day. *AAV[-5,+5]* of the total ex-perk day sample is approximately 0.55 and is significantly positive. These results are consistent with the argument of Michaely and Vila (1995).

To investigate the relationship between the preference of retail shareholders and *AAV*, we examine an OLS regression of the trading volumes around the ex-perk day. The dependent variable is *AAV* between -5 to +5 of the ex-perk day. Our independent variables of focus are *ln(# of individual shareholders)*, *Individual investor ratio*, and the perk yield for retail investors. These variables are proxies for the level of preference of retail investors. The Dynamic dividend clientele model predicts that these variables are positively associated with the trading volume around the ex-perk day. *ln(# of non-individual shareholders)* is the proxy for the preference of non-retail investors. We predict that the *ln(# of non-individual shareholders)* will be negatively related with the trading volume. Following Michaely and Vila (1996), we add *DY, ln(Market capitalization), Systematic risk, and Unsystematic risk* to our empirical models. *DY* and *ln(Market capitalization)* are the proxies for dividend preference and trading costs, respectively. Risk reduces trading volume; investors cannot hedge all of the systematic risk when trading costs exist. Therefore, both *Systematic risk and Unsystematic risk* may be negatively associated with the trading volume. We also include *Gift card dummy*, *Only perk dummy*, and *B-to-C company* as control variables.

Table 11 presents the OLS regression results. We find that *ln(# of individual shareholders)* and *Individual investor ratio* are positively and that *ln(# of non-individual shareholders)* is negatively associated with *AAV*. These results imply that both the individual investor and non-individual investor groups receive the benefit from trading around the ex-perk day, which is consistent with the findings of Michaely and Vila (1995 and 1996). In Models 1, 3, and 5, we also find that PY_{retail} and *DY* are positively associated with *AAV*; these results are also consistent with the ex-dividend return results. When *ln(# of individual shareholders)* and PY_{retail} are included in the same model, the coefficient of PY_{retail} is not statistically significant. One of the reasons for this result may be the correlation of ln(*# of individual shareholders*) and PY_{retail}. The coefficients of *Systematic risk* and *Unsystematic risk* are negatively associated with *AAV*, and the coefficient of *ln(Market Capitalization)* is positively associated with *AAV*. These results are consistent with the findings of Michaely and Vila (1996). The coefficients of *Gift card dummy* and *B-to-C company* are not significantly related with *AAV* and are consistent with the ex-day return results.

5. Conclusion

A unique pseudo-dividend for retail investors, the shareholder perk, is used around the world. Through analyzing the determinants of perk initiation, the change in a firm's features around perk initiation, the stock return on the announcement day of perk initiation, and the stock behavior around the ex-perk day, this paper examines the role and the impact of shareholder perks on firm value and stock behavior using Japanese shareholder perk data from 2001 to 2011. We offer three hypotheses to examine why firms introduce shareholder perks that provide individual stockholders with special treatment, i.e., (1) the Investor base hypothesis, (2) the Entrenchment hypothesis, and (3) the Advertising hypothesis.

We find several results. First, firms that have a low number of individual shareholders, have high ownership by board members and operate as B-to-C companies tend to initiate shareholder perks. Second, the number of individual shareholders increases after perk initiation. The average ownership of individual shareholders increases by approximately 3% and board members' ownership decreases by approximately 3% after perk initiation. Ownership per individual shareholder decreases after perk initiation. Third, operating performance does not change after initiation, even if B-to-C companies use their products as perks. Fourth, the announcement day return is significantly positive, at approximately 3%. Additionally, an attractive perk for individual investors is positively associated with the announcement return. Board ownership and identification as a B-to-C company are not significantly associated with the announcement return. Fifth, the average cost of capital decreases significantly after perk initiation. Additionally, the decrease in the cost of capital after perk initiation is positively associated with the increase in individual shareholder numbers. Sixth, the average abnormal return on the ex-perk day is significantly negative. The perk yield for minimum-unit investors is nearly equal to the price drop on the ex-perk day. The number of individual shareholders is positively and the number of non-individual shareholders is negatively associated with the premium discount of the ex-perk day return. Finally, the average abnormal volumes around the ex-perk day are significantly positive. Additionally, the number of individual shareholders is positively and the number of non-individual shareholders is negatively associated with the abnormal trading volume around the ex-perk day.

These results are consistent with the Investor base hypothesis that an attractive shareholder perk for individual investors increases the size of the individual shareholder base, decreases the cost of capital, and increases the stock price and that special treatment provided to individual stockholders is in the interest of current shareholders. Moreover, our findings imply that stock returns and volumes around the ex-day are affected by the preferences of retail and non-retail investors.

Our results suggest various avenues for future research. Much of the asset pricing literature finds that individual and institutional investors have significantly different effects on stock prices and trading volume (Barber and Odean (2000, 2001, 2008), Kaniel, Saar, and Titman (2008) and Kaniel, Liu, Saar, and Titman (2012)). There may be methods of financing and defense against takeovers that harness individual investors and/or their optimism. Further consideration of the influence of individual investors on corporate finance events may therefore be warranted.

Appendix A: Matching Procedure

The matching procedure was performed as follows. First, we used a probit estimation to model the probability of a perk's initiation in year *t* conditional on the covariates observed in year *t*. Firms that initiated perks ($Adoption_t = 1$) were used in treatment observations. Next, we attached a propensity score to each observation. The propensity score $e(\cdot)$ was defined as

$$\mathrm{e}(X_t) \equiv \Pr(Adoption_{t+1} = 1|X_t) \qquad \text{(A1)}$$

where X_t is a vector of the covariates in the probit estimation.

Next, we implemented another set of probit estimations, including cross-terms, which were multiplied by variables that measured the extent of firms' external control. For each treatment observation, we identified matched observations from the sample of firms not issuing securities. The matched observations are those that demonstrated the closest propensity scores to a particular treatment observation, and these were labeled control observations. It should also be noted that we were able to use each non-treated observation more than once as a control; that is, a non-treatment observation may have been used as a control for more than one treatment observation. Several matching algorithms were used to find the closest control observations. As a baseline, we employed five matches by selecting five arbitrarily determined observations whose propensity scores were closest to each treatment observation.[27]

One of the benefits of a propensity-score-matching estimation is that it enables us to match the treatment and control observations using the scalar propensity score. The propensity score,

[27] We find that the results obtained using different matching algorithms (e.g., the ten nearest and the kernel matches) are similar to those obtained using the five nearest matches.

which is the conditional probability of a treatment given the value of the observed characteristics, is a useful variable to employ when using vectors of covariates of large dimensionality. Rosenbaum and Rubin (1983) show that treatment observations and control observations with the same propensity scores have the same distribution as the full vector of covariates. Thus, to obtain the same covariate probability distributions for the treatment and control observations, it is sufficient to match firms in terms of their propensity scores. We began with the baseline probit estimation, from which we obtained the conditional probability of a firm initiating a perk in year *t* given the industry (2-digit classification) and the values of the observed firm's characteristics in year *t*. The dependent binary variable represents the initiation of the perk in year *t*. The following explanatory variables were used. To measure firm performance, we employed *ROA*, which is defined as the operating return on total assets. *Market* A*sset*, which is defined as the natural logarithm of total market assets, indicates the extent of asymmetric information among investors. We also used the dividend dummy (*Dividend*) to represent the payout policy, *Leverage* to represent the risk of bankruptcy, and *Tobin's Q* to represent the firm's value gap.

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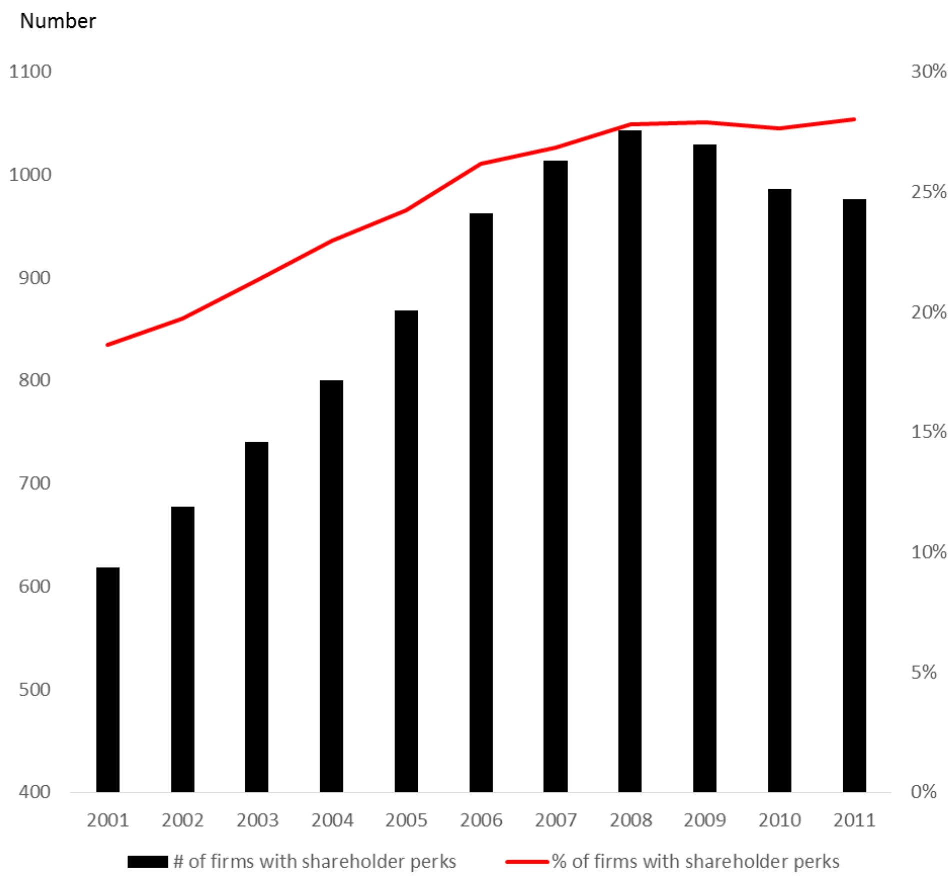

Figure 1. Number and percentage of firms with shareholder perks

Table 1.
Summary statistics

This table provides the summary statistics for our sample. The sample consists of 27,196 firm-year observations from 2001 to 2011. The first column shows the summary statistics for the total sample. The second and third columns show the summary statistics for the initiation and the non-initiation of shareholder perks subsamples. *# of individual shareholders* is the number of individual shareholders. *# of institutional shareholders* is the number of institutional shareholders. *# of non-individual shareholders* is the number of non-individual shareholders. *Individual shareholder ratio* is defined as the number of individual shareholders over the total number of shareholders. *Individual ownership* is the total ownership of individual shareholders minus the ownership of the individual shareholders who are Top 10 shareholders. *Institutional ownership* is the total ownership of institutional shareholders. *Top 10 ownership* is the sum of the top 10 shareholders' ownership. *Board ownership* is the sum of the board members' ownership. *% of outside directors* is the number of outside directors divided by the total number of board members. *Anti-takeover* is a dummy variable that is equal to one if the firm adopts an anti-takeover defense and zero otherwise. *Market Asset* is the sum of the market capitalization at the closing price of the previous fiscal year end and the debt book value of the firm from the previous fiscal year. *Leverage* is the sum of short- and long-term leverage over the book assets of the previous fiscal year. *ROA* is the operating profit over the book assets of the previous fiscal year. *Excess Cash* is the residual from regressing cash holdings on firm-specific characteristics and represents the firm's excess cash holdings. *TobinQ* is the sum of market capitalization and book debt over book assets. *Dividend* is a dummy variable that is equal to one if a firm pays a dividend and zero otherwise. *B-to-C company* is a dummy variable that is equal to one if the firm is a business-to-consumer company and zero otherwise. Statistical significance levels are based on cross-sectional *t*-statistics. * and *** indicate significance at the 10% and 1% levels, respectively, in two-tailed tests.

	Total sample		Initiation sample		Non-initiation sample		Diff (A) - (B)	t-statistics	
	Mean	Median	Mean (A)	Median	Mean (B)	Median			
Number of shareholders									
# of total shareholders	10,769	3,069	7,564	2,088	10,834	3,098	-3,269	-1.74	*
# of individual shareholders	10,483	2,887	7,317	1,923	10,547	2,920	-3,230	-1.74	*
# of non-individual shareholders	286	137	247	111	287	138	-39.3	-1.62	
Individual shareholder ratio	0.941	0.955	0.929	0.946	0.941	0.955	-0.012	-5.60	***
Ownership & Governance									
Individual ownership	0.320	0.313	0.278	0.266	0.321	0.314	-0.04	-10.62	***
Top 10 ownership	0.540	0.530	0.584	0.589	0.539	0.528	0.04	3.98	***
Institutional ownership	0.196	0.166	0.177	0.149	0.197	0.167	-0.02	-3.26	***
Board ownership	0.091	0.017	0.160	0.092	0.089	0.017	0.07	11.66	***
% of outside director	0.262	0.250	0.263	0.250	0.262	0.250	0.00	0.29	
Anti-takeover	0.058	0.000	0.028	0.000	0.059	0.000	-0.03	-3.08	***
Other characteristics									
Market Asset (million yen)	226,333	26,093	156,536	27,032	227,758	26,078	-71,222	-1.45	
Leverage	0.214	0.180	0.213	0.178	0.215	0.180	0.00	-0.16	
ROA	0.044	0.040	0.067	0.059	0.043	0.039	0.02	8.03	***
Excess Cash	0.003	-0.009	0.002	-0.009	0.003	-0.009	0.00	-0.21	
TobinQ	1.168	0.963	1.387	1.051	1.164	0.962	0.22	6.60	***
Dividend	0.804	1.000	0.875	1.000	0.802	1.000	0.07	4.22	***
B-to-C company	0.304	0.000	0.548	1.000	0.299	0.000	0.25	12.55	***
Observations	27,196		544		26,652				

Table 2.

Logistic regression of the determinants of perk initiation

This table shows the results for the logistic regression of the determinants of perk initiation. The dependent variable is the initiation dummy variable, which is equal to one if a firm initiates a perk during the fiscal year and zero otherwise. The independent variables are as follows: *ln(# of individual shareholders)* is the natural logarithm of the number of individual shareholders. *Individual shareholder ratio* is defined as the number of individual shareholders to the total number of shareholders. *Individual ownership* is the total ownership of individual shareholders minus the ownership of individual shareholders who are Top 10 shareholders. *Institutional ownership* is the total ownership of institutional shareholders. *Board ownership* is the sum of the board members' ownership. *% of outside directors* is the number of outside directors divided by the total number of board members. *Anti-takeover* is a dummy variable that is equal to one if the firm adopts an anti-takeover defense and zero otherwise. *Market Asset* is the sum of the market capitalization at the closing price of the previous fiscal year end and the debt book value of the firm from the previous fiscal year. *Leverage* is the sum of short- and long-term leverage over the book assets of the previous fiscal year. *ROA* is the operating profit over the book assets of the previous fiscal year. *Excess cash* is the residual from regressing cash holdings on firm-specific characteristics and represents the firm's excess cash holdings. *TobinQ* is the sum of the market capitalization and book debt over the book assets. *Dividend* is a dummy variable that is equal to one if a firm pays a dividend and zero otherwise. *B-to-C company* is a dummy variable that is equal to one if the firm is a business-to-commerce company and zero otherwise. We use industry dummy variables and year dummy variables.*, **, and *** indicate statistical significance at the 0.1, 0.05, and 0.01 levels, respectively.

(N = 27,196)	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
ln(# of individual shareholders)	-0.31***	-0.36***		-0.26***	-0.28***	
	(-5.33)	(-5.91)		(-4.26)	(-4.33)	
ln(# of non-individual shareholders)		0.23**			0.11	
		(2.07)			(0.95)	
Individual shareholder ratio			-2.89***			-1.94***
			(-4.84)			(-2.96)
Individual ownership	-0.29	-0.29	-0.89**	-0.10	-0.10	-0.67
	(-0.64)	(-0.64)	(-2.19)	(-0.21)	(-0.23)	(-1.55)
Institutional ownership	-0.06	-0.28	-0.30	-0.11	-0.22	-0.31
	(-0.13)	(-0.64)	(-0.70)	(-0.26)	(-0.49)	(-0.70)
Board ownership	1.86***	1.94***	1.91***	1.91***	1.95***	1.92***
	(5.98)	(6.14)	(6.17)	(5.83)	(5.86)	(5.92)
% of outside director	0.40	0.39	0.19	0.47	0.47	0.28
	(1.16)	(1.12)	(0.56)	(1.35)	(1.34)	(0.80)
Anti-takeover	-0.03	-0.03	-0.02	-0.03	-0.03	-0.02
	(-0.10)	(-0.11)	(-0.06)	(-0.11)	(-0.11)	(-0.08)
B-to-C Company	0.92***	0.93***	0.87***	0.55***	0.55***	0.51**
	(9.27)	(9.34)	(8.80)	(2.59)	(2.61)	(2.41)
ln(Market Asset)	0.26***	0.17**	0.06	0.24***	0.20***	0.07*
	(4.46)	(2.34)	(1.47)	(3.91)	(2.62)	(1.70)
ROA	2.07**	2.22**	2.35***	2.34**	2.41**	2.54***
	(2.29)	(2.44)	(2.67)	(2.40)	(2.46)	(2.68)
Excess Cash	-0.68*	-0.70*	-0.74**	-0.74*	-0.75*	-0.80**
	(-1.82)	(-1.88)	(-2.00)	(-1.86)	(-1.89)	(-2.05)
Leverage	-0.01	0.12	0.20	-0.04	0.02	0.12
	(-0.05)	(0.46)	(0.80)	(-0.12)	(0.07)	(0.40)
TobinQ	-0.11	-0.09	-0.11*	-0.06	-0.06	-0.07
	(-1.63)	(-1.37)	(-1.68)	(-0.96)	(-0.85)	(-0.99)
Dividend	0.19	0.22	0.28*	0.19	0.20	0.27*
	(1.24)	(1.40)	(1.82)	(1.22)	(1.28)	(1.71)
Year indicators	Yes	Yes	Yes	Yes	Yes	Yes
Industry indicators	No	No	No	Yes	Yes	Yes
Constant	-5.14***	-4.98***	-2.58***	-3.82***	-3.75***	-2.10***
	(-11.06)	(-10.56)	(-4.26)	(-7.08)	(-6.92)	(-3.01)
Pseudo R^2	0.069	0.069	0.067	0.097	0.097	0.095

Table 3.
Difference in differences test of ownership and operating performance

This table shows the difference in differences estimator for the number of shareholders, ownership and operating performance variables around perk initiation. The sample consists of 536 perk initiation firms from 2001 to 2011. *T* is the fiscal period immediately before perk initiation. *T+2* and *T+3* are fiscal periods of two and three years after the perk initiation, respectively. *# of individual shareholders* is the number of individual shareholders. *# of non-individual shareholders* is the number of non-individual shareholders. *Individual shareholder ratio* is defined as the number of individual shareholder to the total number of shareholders. *Individual ownership* is the total ownership of individual shareholders minus the ownership of individual shareholders who are Top 10 shareholders. *Institutional ownership* is the total ownership of institutional shareholders. *Board ownership* is the sum of the board members' ownership. Individual ownership per individual shareholder is defined as the individual ownership divided by the number of individual shareholders. *ROA* is operating profits on book assets. *ROS* is operating profits on sales. *SOA* is sales on book assets. Statistical significance levels are based on *t*-statistics. ** and *** indicate significance at the 5% and 1% levels, respectively, in two-tailed tests.

	Difference period	Treatment	Control	DID	t-stat	N
Number of shareholders						
# of individual shareholders	*(T+2) - T*	2,064	-170	1,917	6.19 ***	536
	(T+3) - T	3,500	979	2,937	4.25 ***	522
# of non-individual shareholders	*(T+2) - T*	11	-11	22	3.79 ***	536
	(T+3) - T	16	-1	17	2.43 **	522
ln(# of individual shareholders)	*(T+2) - T*	0.545	0.088	0.458	13.69 ***	536
	(T+3) - T	0.693	0.137	0.556	14.42 ***	522
ln(# of non-individual shareholders)	*(T+2) - T*	0.098	-0.010	0.108	6.30 ***	536
	(T+3) - T	0.101	-0.039	0.139	6.18 ***	522
Individual shareholder ratio	*(T+2) - T*	0.021	0.003	0.018	6.83 ***	536
	(T+3) - T	0.029	0.005	0.024	9.57 ***	522
Ownership						
Individual ownership	*(T+2) - T*	0.018	0.007	0.011	2.60 ***	536
	(T+3) - T	0.029	0.014	0.015	3.45 ***	522
Institutional ownership	*(T+2) - T*	-0.008	-0.007	-0.001	-0.41	536
	(T+3) - T	-0.013	-0.013	0.000	0.11	522
Board ownership	*(T+2) - T*	-0.021	-0.017	-0.004	-1.26	536
	(T+3) - T	-0.033	-0.024	-0.009	-2.28 **	522
Individual ownership per individual shareholder (x 10,000)	*(T+2) - T*	-0.089	-0.009	-0.794	-7.86 ***	536
	(T+3) - T	-0.103	-0.011	-0.944	-8.75 ***	522
Firm performance						
ROA	*(T+2) - T*	-0.011	-0.014	0.003	0.65	536
	(T+3) - T	-0.017	-0.017	0.000	0.09	522
ROS	*(T+2) - T*	-0.010	-0.013	0.003	0.68	536
	(T+3) - T	-0.019	-0.019	0.000	-0.03	522
SOA	*(T+2) - T*	0.022	0.034	-0.012	-0.67	536
	(T+3) - T	0.016	0.043	-0.027	-1.36	522
ROA of B-to-C company that uses own product as a perk	*(T+2) - T*	-0.020	-0.019	-0.001	-0.11	199
	(T+3) - T	-0.030	-0.027	-0.002	-0.42	193
ROS of B-to-C company that uses own product as a perk	*(T+2) - T*	-0.017	-0.013	-0.004	-0.46	199
	(T+3) - T	-0.024	-0.022	-0.003	-0.34	193
SOA of B-to-C company that uses own product as a perk	*(T+2) - T*	0.034	0.047	-0.012	-0.29	199
	(T+3) - T	0.012	0.025	-0.013	-0.41	193

Table 4.
Summary statistics for the announcement return

This table shows the mean abnormal returns and cumulative abnormal returns around announcement day and summary statistics for the 307 perk initiations sample from 2001 to 2011. *AR* is abnormal returns. *CAR* is cumulative abnormal returns. *AD* is the announcement day. Statistical significance levels of the mean abnormal returns are based on cross-sectional *t*-statistics. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively, in two-tailed tests.

(N=307)	Mean	t-statistics	Median	# of positive	% of positive
AR[AD-5]	0.004	0.03	-0.049	148	48.2%
AR[AD-4]	-0.378 **	-2.44	-0.207	135	44.0%
AR[AD-3]	0.012	0.08	-0.048	139	45.3%
AR[AD-2]	0.228	1.44	0.024	156	50.8%
AR[AD-1]	0.491 **	2.36	0.169	165	53.7%
AR[AD]	1.205 ***	4.69	0.456	186	60.6%
AR[AD+1]	0.365 *	1.86	0.136	168	54.7%
AR[AD+2]	0.212	1.17	-0.024	153	49.8%
AR[AD+3]	0.502 ***	2.62	-0.003	153	49.8%
AR[AD+4]	-0.011	-0.07	-0.203	131	42.7%
AR[AD+5]	0.212	1.05	-0.160	135	44.0%
CAR[-5,-2]	-0.133	-0.39	-0.162	141	45.9%
CAR[-1,+1]	2.061 ***	5.02	1.079	190	61.9%
CAR[+2,+5]	0.915 **	2.14	0.108	157	51.1%
CAR[-5,+5]	2.843 ***	3.68	1.099	173	56.4%

Table 5.
OLS regression of the cumulative abnormal return around the announcement day of perk initiation

This table shows the summary statistics and the results for an ordinary least squares regression of cumulative abnormal returns around the announcement day. Panel A shows summary statistics for the sample. Panel B shows the ordinary least squares regression of cumulative abnormal returns around the announcement. The dependent variable is the three-day cumulative abnormal returns around the time of the perk announcement. The independent variables are as follows. *IR_IND* and *IR_NON_IND* denote increasing ratios for the number of individual and institutional investors, respectively, from the fiscal year prior to the perk announcement to the second fiscal year end after the perk announcement. *ΔIndividual shareholder ratio* is the difference in the individual shareholder ratio from the fiscal period immediately before perk initiation to the fiscal period two years after perk initiation. *Individual ownership* is the total ownership of individual shareholders minus the ownership of the individual shareholders who are Top 10 shareholders. *Board ownership* is the sum of the board members' ownership. *B-to-C company* is a dummy variable that is equal to one if the firm is a business-to-commerce company and zero otherwise. *OWN* is a dummy variable that is equal to one if a *B-to-C company* uses its products as shareholder perks and zero otherwise. *Market Asset* is the sum of the market capitalization at the closing price of the previous fiscal year end and the debt book value of the firm from the previous fiscal year. *Leverage* is the sum of short- and long-term leverage over the book assets of the previous fiscal year. *ROA* is the operating profit over the book assets of the previous fiscal year. *TobinQ* is the sum of market capitalization and book debt over book assets. Heteroskedasticity-adjusted t-statistics are presented in parentheses below the regression coefficients. *, **, and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively.

Panel A: Summary statistics of the announcement sample

(N = 307)	Mean	Median	Std.dev	10th percentile	90th percentile
IR_IND	1.335	0.408	2.523	-0.117	3.553
IR_NON_IND	0.174	0.059	0.486	-0.182	0.660
Δindividual shareholder ratio	0.022	0.013	0.042	-0.006	0.054
Individual ownership	0.278	0.266	0.140	0.110	0.449
Board ownership	0.169	0.096	0.200	0.002	0.472
B-to-C Company	0.577	1.000	0.495	0.000	1.000
OWN	0.362	0.000	0.481	0.000	1.000
Market Asset	139,357	39,251	304,916	9,330	353,194
Leverage	0.207	0.177	0.184	0.000	0.463
ROA	0.072	0.059	0.067	0.018	0.149
TobinQ	1.511	1.055	1.512	0.799	2.396

Panel B. OLS regression of the CAR

(N = 307)	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
IR_IND	0.40**		0.54***		0.54***	
	(2.39)		(3.00)		(3.03)	
IR_NON_IND		-0.66	-1.57**		-1.57**	
		(-0.88)	(-2.16)		(-2.14)	
Δindividual shareholder ratio				24.38**		24.17**
				(2.17)		(2.16)
Individual ownership	4.24	3.08	4.64	4.25	4.64	4.24
	(1.05)	(0.77)	(1.17)	(1.06)	(1.16)	(1.05)
Institutional ownership	-8.40**	-10.24**	-9.52**	-8.75**	-9.53**	-8.70**
	(-2.06)	(-2.51)	(-2.34)	(-2.12)	(-2.32)	(-2.10)
Board ownership	-3.49	-3.58	-3.66	-3.38	-3.67	-3.30
	(-1.08)	(-1.16)	(-1.17)	(-1.07)	(-1.14)	(-1.02)
B-to-C company	0.46	0.29	0.32	0.45	0.31	0.63
	(0.55)	(0.34)	(0.39)	(0.54)	(0.34)	(0.68)
OWN					0.02	-0.29
					(0.02)	(-0.25)
ln(Market Asset)	-0.47	-0.48	-0.43	-0.49	-0.43	-0.48
	(-1.45)	(-1.49)	(-1.33)	(-1.50)	(-1.32)	(-1.48)
Leverage	3.68*	3.56	3.64*	3.89*	3.64*	3.90*
	(1.70)	(1.64)	(1.69)	(1.80)	(1.68)	(1.80)
ROA	-0.25	1.54	0.41	0.58	0.44	0.24
	(-0.02)	(0.14)	(0.04)	(0.05)	(0.04)	(0.02)
TobinQ	0.36	0.46	0.42	0.46	0.42	0.46
	(0.49)	(0.65)	(0.58)	(0.64)	(0.58)	(0.65)
Constant	5.96	7.21*	5.68	5.95	5.68	5.91
	(1.43)	(1.75)	(1.37)	(1.43)	(1.36)	(1.41)
Adjusted R-squared	0.057	0.041	0.067	0.049	0.064	0.046

Table 6.
Changes in the cost of capital

This table reports the difference in the abnormal return of the following time-series regression, which was run for each perk initiation firm for t from month -24 to month -2 prior to the perk initiation declaration month and from month +2 to month +24 after the initiation declaration month:

$$r_{i,t} - r_{f,t} = \alpha_{i,0} + \alpha_{i,1}D_t + (\beta_{i,0} + \beta_{i,1}D_t)(r_{m,t} - r_{f,t}) + (\gamma_{i,0} + \gamma_{i,1}D_t)SMB_t + (\delta_{i,0} + \delta_{i,1}D_t)HML_t + (\sigma_{i,0} + \sigma_{i,1}D_t)LIQ_t + \varepsilon_{i,t}$$

where $D_t = 1$ if t is in the post-adoption period, and $D_t = 0$ otherwise. $\alpha_{i,0}$ is the pre-adoption abnormal return, and $\alpha_{i,1}$ is the difference between the post- and the pre-adoption abnormal returns. $\beta_{i,1}$, $\gamma_{i,1}$, $\delta_{i,1}$, and $\sigma_{i,1}$ are, respectively, the differences between the post- and the pre-adoption betas of the market portfolio, *SMB*, *HML* and *LIQ* factor (FF 3/LIQ model). The table also shows the difference between the post- and pre-adoption abnormal returns by using FF3-factor (*rm* – *rf*, *SMB* and *HML*) and one-factor (*rm* – *rf*) models. The table shows the α_i for the total sample and the individual groups divided by $\Delta\lambda$ quartiles.

$$\Delta\lambda = \left[\left(\frac{RVAR_{post} * RELCAP_{post}}{NIND_{post}}\right) - \left(\frac{RVAR_{pre} * RELCAP_{pre}}{NIND_{pre}}\right)\right] * 1{,}000{,}000$$

$NIND_{pre}$ and $NIND_{post}$ are the number of individual shareholders at the end of the most recent fiscal year prior to the perk initiation announcement date and at the second fiscal year end after the announcement date, respectively. $RVAR_{pre}$ and $RVAR_{post}$ are the stock's residual variance calculated from the daily date in the interval [-150, -11] prior to the announcement date and in the interval [11, 150] following the second fiscal year end after the announcement date, respectively. $RELCAP_{pre}$ and $RELCAP_{post}$ are the firm's market capitalization divided by the sum of the market capitalization of all stocks available on the NPM portfolio master data base, calculated at the end of the month previous to the announcement date and the second fiscal year end following the announcement date, respectively. *IR_IND* is the increasing ratio of the number of individual and institutional investors from the fiscal year prior to the perk announcement to the second fiscal year end after the perk announcement. *ΔIndividual* shareholder ratio is the difference in the individual shareholder ratio from the fiscal period immediately before perk initiation to the fiscal period two years after perk initiation. t-statistics with autoregressive error correction standard errors (where errors are deviations from the means) are presented in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively.

	N	Mean $\Delta\lambda$	Mean *IR_IND*	Mean *ΔIndividual shareholder ratio*	α_1					
					FF3/LIQ model		FF3 model		CAPM	
Total sample	307	-0.019	1.335	0.020	-0.890***	(-2.58)	-1.405***	(-4.38)	-0.635**	(-2.14)
$\Delta\lambda$ quartile										
Quartile 1 (least $\Delta\lambda$)	77	-0.079	3.178	0.044	-4.394***	(-6.37)	-4.745***	(-6.58)	-3.349***	(-5.41)
Quartile 2	77	-0.012	1.594	0.023	-0.615	(-0.87)	-1.337**	(-2.08)	-1.144*	(-1.85)
Quartile 3	77	-0.001	0.349	0.009	0.303	(0.48)	-0.556	(-1.13)	0.662	(1.43)
Quartile 4 (Most $\Delta\lambda$)	76	0.015	0.204	0.006	1.171**	(2.10)	1.051**	(2.12)	1.318**	(2.55)
Quartile 4 - Quartile 1					5.565***	(-6.26)	5.795***	(6.60)	4.667***	(5.78)

Table 7.
OLS regression of the changes in the cost of capital

This table shows the results for ordinary least squares regressions of the change in the cost of capital around perk initiation. The dependent variable $\alpha_{i,1}$ is the difference between post- and pre-adoption abnormal returns. The independent variables are as follows. *Δλ* is defined in Table 6. *IR_IND* and *IR_NON_IND* denote increasing ratios for the number of individual and institutional investors, respectively, from the fiscal year prior to the perk announcement to the second fiscal year end after the perk announcement. *ΔIndividual shareholder ratio* is the difference in the individual shareholder ratio from the fiscal period immediately before perk initiation to the fiscal period two years after perk initiation. *B-to-C company* is a dummy variable that is equal to one if the firm is a business-to-commerce company and zero otherwise. *Market Asset* is the sum of the market capitalization at the closing price of the previous fiscal year end and the debt book value of the firm from the previous fiscal year. *Unsystematic risk* is the mean square error computed as the deviation of the stock price from the value predicted by the market model for the period from -150 days to -11 days before the announcement day. *Leverage* is the sum of short- and long-term leverage over the book assets of the previous fiscal year. *ROA* is the operating profit over the book assets of the previous fiscal year. *TobinQ* is the sum of market capitalization and book debt over book assets. Heteroskedasticity-adjusted *t*-statistics are presented in parentheses below the regression coefficients. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively.

	Model 1	Model 2	Model 3	Model 4	Model 5
Δλ		28.08***			
		(3.90)			
IR_IND			-0.52***	-0.41***	
			(-4.08)	(-3.19)	
IR_NON_IND				-1.23*	
				(-1.87)	
ΔIndividual investor ratio					-19.59**
					(-2.39)
B-to-C company	0.85	1.03*	0.90	0.82	0.85
	(1.46)	(1.84)	(1.58)	(1.42)	(1.47)
ln(Market Asset)	-0.80***	-0.67***	-0.86***	-0.87***	-0.81***
	(-3.56)	(-3.10)	(-3.95)	(-3.96)	(-3.61)
Unsystematic risk	-0.25***	-0.26***	-0.26***	-0.26***	-0.25***
	(-3.21)	(-3.46)	(-3.43)	(-3.37)	(-3.28)
Leverage	-17.08**	-14.86**	-14.81**	-0.98	-1.09
	(-2.55)	(-2.47)	(-2.38)	(-0.48)	(-0.52)
ROA	-0.96	-0.79	-0.88	-14.63**	-16.41**
	(-0.46)	(-0.38)	(-0.42)	(-2.36)	(-2.52)
TobinQ	0.11	0.36	0.25	0.30	0.10
	(0.23)	(0.85)	(0.57)	(0.69)	(0.23)
Constant	11.55***	10.05***	12.66***	12.71***	12.15***
	(4.24)	(3.83)	(4.71)	(4.73)	(4.43)
Observations	307	307	307	307	307
Adjusted R-squared	0.154	0.213	0.198	0.207	0.161

Table 8.
Summary statistics of ex-day return, perk yield, and perk premium

This table shows the summary statistics of the perk yield, the dividend yield, the ex-day return and the ex-day perk discount. The sample consists of 3,279 ex-perk day firms from 2001 to 2011. Columns 1, 2, and 3 show the summary statistics for the total ex-perk day sample, the only ex-perk-day sample and a simultaneous ex-day sample, respectively. Column 4 shows the summary statistics of the only ex-dividend-day sample. *Return[Ex-day]* is the raw return on ex-day. PY_{retail} is the perk yield for minimum-unit investors. PY_{total} is the perk yield based on the total number of outstanding shares. *DY* is the dividend yield. *Total yield* is the sum of PY_{retail} and *DY*. *Discount* is the level of the perk premium on the ex-perk day for minimum-unit investors. *t*-statistics, presented below the coefficients, are the *t*-statistics for the mean difference from zero. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively.

		Ex-perk day sample			Only dividend sample
		Total	Only perk	Perk and Dividend	
Return[Ex-day]	Mean	-0.030	-0.042	-0.028	-0.010
	Median	-0.023	-0.036	-0.022	-0.009
PY_{retail}	Mean	0.020	0.041	0.016	
	Median	0.012	0.026	0.010	
PY_{total}	Mean	0.001	0.004	0.001	
	Median	0.001	0.003	0.001	
DY	Mean	0.013	0.000	0.015	0.016
	Median	0.011	0.000	0.012	0.013
Total yield	Mean	0.033	0.041	0.031	0.016
	Median	0.026	0.026	0.025	0.013
Premium	Mean	0.284***	0.643***	0.229***	
	t-statistics	4.426	5.604	3.189	
	N	3,279	435	2,844	21,631

Table 9.
OLS regression of the perk discount on ex-perk day

This table shows the results for the ordinary least squares regression of the discount for minimum-unit investors. Panel A shows the summary statistics for the total ex-perk day sample. Panel B shows the results of the OLS regression of the perk discount on the ex-perk day. The dependent variable is *Discount*, which is the level of the perk premium on the ex-perk day for minimum-unit investors. The independent variables are as follows. *ln(# of individual shareholders)* is the natural logarithm of the number of individual shareholders. *ln(# of non-individual shareholders)* is the natural logarithm of the number of non-individual shareholders. *Individual shareholder ratio* is defined as the number of individual shareholders to the total number of shareholders. *Individual ownership* is the total ownership of individual shareholders minus the ownership of the individual shareholders who are Top 10 shareholders. *Capitalization* is market capitalization as of the last day of the previous month. *Systematic risk* is estimated using data from the market model, in which the estimation window is 140 days, running from -150 to -11 days from ex-day. *Unsystematic risk* is the residual of the market model, in which the estimation window is 140 days, from -150 to -11, scaled by the market variance in the same time period. *Only perk dummy* is a dummy variable that is equal to one if a firm pays only a perk and zero otherwise. *B-to-C company* is a dummy variable that is equal to one if the firm is a business-to-commerce company and zero otherwise. *Gift card* dummy is a dummy variable that is equal to one if the firm offers a gift-card-type perk (high liquidity perk) and zero otherwise. Heteroskedasticity-adjusted *t*-statistics are presented in parentheses below the regression coefficients. *, **, and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively.

Panel A. Summary statistics of the ex-perk day sample

(N = 3,279)	Mean	Median	Std.dev	10th percentile	90th percentile
# of individual shareholders	7,041	3,403	13,052	659	14,430
# of non individual shareholders	227	144	302	46	483
Individual shareholder ratio	0.94	0.96	0.06	0.89	0.99
Capitalization (million yen)	44,808	10,560	136,859	2,239	102,295
Systematic risk	1.39	1.15	0.64	0.89	2.96
Unsystematic risk	1.69	1.48	0.98	0.80	2.84
Only perk dummy	0.13	0.00	0.34	0.00	1.00
Gift card dummy	0.16	0.00	0.36	0.00	1.00

Panel B. OLS regression results of the discount

	Model 1	Model 2	Model 3	Model 4	Model 5
ln(# of individual shareholders)		0.42***		0.49***	
		(5.31)		(6.08)	
ln(# of non individual shareholders)			-0.23*	-0.44***	
			(-1.78)	(-3.34)	
Individual investor ratio					7.07***
					(5.43)
PY_{retail}	-21.99***	-27.63***	-21.20***	-27.05***	-24.69***
	(-11.24)	(-13.74)	(-10.93)	(-13.50)	(-12.40)
DY	9.36	2.84	9.78	2.56	1.00
	(1.22)	(0.36)	(1.27)	(0.33)	(0.13)
Gift card dummy	-0.47***	-0.70***	-0.35***	-0.51***	-0.48***
	(-7.80)	(-9.13)	(-3.80)	(-5.23)	(-8.01)
ln(Capitalization)	-0.16	-0.22	-0.18	-0.26	-0.25
	(-0.78)	(-1.06)	(-0.87)	(-1.26)	(-1.25)
Systematic risk	-0.35*	-0.61***	-0.32	-0.60***	-0.62***
	(-1.80)	(-3.08)	(-1.64)	(-3.02)	(-3.09)
Unsystematic risk	-0.02	0.08	-0.05	0.05	0.02
	(-0.30)	(0.97)	(-0.58)	(0.62)	(0.29)
Only perk dummy	0.44**	0.07	0.54***	0.21	0.22
	(2.12)	(0.35)	(2.58)	(0.97)	(1.06)
B-to-C company	0.22	0.20	0.19	0.14	0.18
	(1.64)	(1.51)	(1.42)	(1.08)	(1.38)
Constant	5.10***	4.10***	5.09***	3.93***	-1.18
	(7.77)	(6.07)	(7.76)	(5.83)	(-0.89)
Observations	3,279	3,279	3,279	3,279	3,279
Adjusted R-squared	0.051	0.058	0.051	0.061	0.061

Table 10.
Abnormal return and abnormal volume around the ex-day

This table shows the mean abnormal volume (*AV*) and the mean average abnormal volume (*AAV*) around ex-perk day. Columns 1, 2, and 3 show the summary statistics for the total ex-perk day sample, the only ex-perk-day sample and a simultaneous ex-day sample, respectively. The statistical significance levels of the mean *AV* and *AAV* are based on cross-sectional *t*-statistics. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively, in two-tailed tests.

	Total		Only perk		Perk and divi
	AV/AAV	t-stat	*AV/AAV*	t-stat	*AV/AAV*
AV					
Ex-day -5	0.380 ***	14.77	0.397 ***	5.05	0.377 ***
Ex-day -4	0.424 ***	16.27	0.408 ***	5.24	0.426 ***
Ex-day -3	0.565 ***	19.30	0.630 ***	7.28	0.555 ***
Ex-day -2	0.870 ***	25.45	0.968 ***	10.02	0.855 ***
Ex-day -1	2.259 ***	32.25	2.502 ***	12.51	2.221 ***
Ex-day 0	1.115 ***	25.14	1.395 ***	10.11	1.072 ***
Ex-day 1	0.238 ***	10.59	0.372 ***	4.78	0.218 ***
Ex-day 2	0.073 ***	3.74	0.121 *	1.91	0.065 ***
Ex-day 3	0.051 ***	2.61	0.032	0.54	0.053 ***
Ex-day 4	0.013	0.69	0.012	0.20	0.013
Ex-day 5	0.037 *	1.78	0.118	1.56	0.024
AAV					
Ex-day[-5,-1]	0.899 ***	31.88	0.981 ***	12.02	0.887 ***
Ex-day[-1,+1]	1.204 ***	30.27	1.423 ***	11.62	1.170 ***
Ex-day[+1,+5]	0.082 ***	5.54	0.131 **	2.53	0.075 ***
Ex-day[-5,+5]	0.548 ***	26.56	0.633 ***	10.07	0.535 ***
N	3,279		435		2,844

Table 11.
OLS regression of the average abnormal volume

This table shows the results for the ordinary least squares regression of the three-day average abnormal volume (*AAV*) around the ex-perk day from Ex-day -5 to Ex-day +5. The dependent variable is *AAV*. The independent variables are as follows. *ln(# of individual shareholders)* is the natural logarithm of the number of individual shareholders. l*n(# of non-individual shareholders)* is the natural logarithm of the number of non-individual shareholders. *Individual shareholder ratio* is defined as the number of individual shareholders to the total number of shareholders. *Individual ownership* is the total ownership of individual shareholders minus the ownership of the individual shareholders who are Top 10 shareholders. *Capitalization* is market capitalization as of the last day of the previous month. *Systematic risk* is estimated using data from the market model, in which the estimation window is 140 days, running from -150 to -11 days prior to ex-day. *Unsystematic risk* is the residual of the market model, in which the estimation window is 140 days, from -150 to -11, scaled by the market variance in the same time period. *Only perk dummy* is a dummy variable that is equal to one if a firm pays only a perk and zero otherwise. *B-to-C company* is a dummy variable that is equal to one if the firm is a business-to-commerce company and zero otherwise. *Gift card dummy* is a dummy variable that is equal to one if the firm offers gift-card-
type of perk (high liquidity perk) and zero otherwise. Heteroskedasticity-adjusted *t*-statistics are presented in parentheses below the regression coefficients. *, **, and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively.

	Model 1	Model 2	Model 3	Model 4	Model 5
ln(# of individual shareholders)		0.22***		0.26***	
		(8.67)		(9.42)	
ln(# of non individual shareholders)			-0.10**	-0.21***	
			(-2.38)	(-4.69)	
Individual investor ratio					3.26***
					(8.99)
PY_{retail}	3.58***	0.60	3.93***	0.87	2.34**
	(3.53)	(0.58)	(3.80)	(0.85)	(2.34)
DY	9.87***	6.41**	10.05***	6.28**	6.01**
	(3.22)	(2.11)	(3.28)	(2.07)	(1.97)
Gift card dummy	-0.09***	-0.22***	-0.04	-0.12***	-0.10***
	(-5.58)	(-9.63)	(-1.39)	(-4.20)	(-5.93)
ln(Capitalization)	0.12**	0.09	0.11*	0.07	0.08
	(2.08)	(1.57)	(1.93)	(1.20)	(1.31)
Systematic risk	-0.27***	-0.41***	-0.26***	-0.40***	-0.39***
	(-4.84)	(-6.99)	(-4.63)	(-6.95)	(-6.79)
Unsystematic risk	-0.18***	-0.13***	-0.19***	-0.14***	-0.16***
	(-6.07)	(-4.40)	(-6.29)	(-4.87)	(-5.58)
Only perk dummy	0.20**	0.01	0.25***	0.07	0.10
	(2.26)	(0.09)	(2.69)	(0.80)	(1.15)
B-to-C company	0.07*	0.06	0.06	0.04	0.06
	(1.79)	(1.57)	(1.48)	(0.91)	(1.40)
Constant	1.58***	1.05***	1.58***	0.97***	-1.32***
	(7.66)	(5.01)	(7.67)	(4.63)	(-3.56)
Observations	3,279	3,279	3,279	3,279	3,279
Adjusted R-squared	0.077	0.098	0.079	0.104	0.098

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